# **ENVIRONMENTAL CHEMISTS**

Date of Report: April 23, 1996 Date Received: April 18, 1996

Project: Metro Self Monitor, PO #M52949 Date Samples Extracted: April 19, 1996 Date Extracts Analyzed: April 22, 1996

# RESULTS FROM THE ANALYSIS OF THE PROCESS WATER SAMPLE FOR CHROMIUM, COPPER, NICKEL, AND ZINC USING METHOD 6010

# Samples Processed Using Method 3005A Results Reported as mg/L (ppm)

Sample ID	<u>Chromium</u>	Copper	Nickel	<u>Zinc</u>
M52949	0.32	0.24	0.15	< 0.05
Method Blank	<0.05	< 0.05	<0.05	< 0.05

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Project: Metro Self Monitor, PO #M52949

# QUALITY ASSURANCE RESULTS FOR TOTAL METALS BY INDUCTIVELY COUPLED PLASMA (ICP) (METHOD 6010) Samples Processed Using Method 3005A

Laboratory Code: 68131 (Duplicate)

Analyte:	Reporting Units	Sample Result	Duplicate Result	Relative Percent Difference	Acceptance <u>Criteria</u>
Chromium	n mg/L (ppm)	0.32	0.32	0	0-20
Copper	mg/L (ppm)	0.24	0.22	9a	0-20
Nickel	mg/L (ppm)	0.15	0.14	7a	0-20
Zinc	mg/L (ppm)	< 0.05	< 0.05	nm	0-20

Laboratory Code: 68131 (Matrix Spike)

							Relative
	Reporting	Spike	Sample	% ]	Recovery	Acceptance	Percent
Analyte:	Units	Level	Result	MS	MSD	Criteria	Difference
Chromium	mg/L (ppm)	5	0.32	92	96	80-120	4
Copper	mg/L (ppm)	5	0.24	92	98	80-120	6
Nickel	mg/L (ppm)	10	0.15	93	98	80-120	5
Zinc	mg/L (ppm)	5	< 0.05	96	100	80-120	4

Laboratory Code: Spike Blank

	Reporting	Spike	% F	lecovery	Acceptance	Relative e Percent
Analyte:	Units	Level	MS	MSD	Criteria	Difference
Chromium	mg/L (ppm)	5	100	99	80-120	1
Copper	mg/L (ppm)	5	101	98	80-120	3
Nickel	mg/L (ppm)	10	101	101	80-120	0
Zinc	mg/L (ppm)	5	101	101	80-120	0

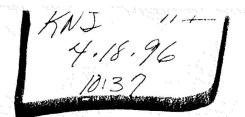
nm - The analyte was not detected in one or more of the duplicate analyses. Therefore, calculation of the RPD is not applicable.

a - The analyte was detected at a level less than five times the detection limit. The RPD results may not provide reliable information on the variability of the analysis.

FRIEDMAN & BRUYA, INC. 3012 16th Avenue West Seattle, WA 98119-2029 (206) 285-8282

FORMS/COC

# SAMPLE CHAIN OF CUSTODY



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# **ENVIRONMENTAL CHEMISTS**

Andrew John Friedman James E. Bruya, Ph.D. (206) 285-8282 3012 16th Avenue West Seattle, WA 98119-2029 FAX: (206) 283-5044

April 23, 1996

Gerald Thompson, Project Manager Alaskan Copper Works 628 South Hanford Seattle, WA 98134

Dear Mr. Thompson:

Enclosed are the results from the testing of material submitted on April 18, 1996 from your Metro Self Monitor, PO #M52949 project.

We appreciate this opportunity to be of service to you and hope you will call if you should have any questions.

Sincerely,

FRIEDMAN & BRUYA, INC.

Kurt Johnson Chemist

keh

Enclosures

FAX: 382-7335 ACU0423R.DOC

# **ENVIRONMENTAL CHEMISTS**

Andrew John Friedman James E. Bruya, Ph.D. (206) 285-8282 3012 16th Avenue West Seattle, WA 98119-2029 FAX: (206) 283-5044

April 23, 1996

# INVOICE # 96ACU0423-1 DUPLICATE COPY

Accounts Payable Alaskan Copper Works 628 South Hanford Seattle, WA 98134

RE: Project Metro Self Monitor, PO #M52949: Results of testing requested by Gerald Thompson, Project Manager for material submitted on April 18, 1996.

1 process water sample analyzed for Chromium, Copper, Nickel, and Zinc using Method 6010 @ \$65 per sample \$ 65.00

Amount Due \$ 50.00